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The Risk and Return Profiles of SRI in Indonesia: A Study on Sri Kehati Index

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ABSTRACT

This study aims at examining the performance of Indonesian socially responsible investment (SRI) index, SRI Kehati Index against Jakarta Composite Index (JCI) as the market (conventional) index. Using the sample of daily index, this study covers a period from 1st January 2009 to 31st December 2014. This study uses mean return and standard deviation to examine the performance of both socially responsible investment and conventional investment. The results show that the mean return of SRI Kehati index underperforms JCI index in the overall period. On annual period, SRI Kehati outperforms JCI for four years from 2011 to 2014 with mix of significant and non-significant returns profile. The standard deviation of SRI Kehati is consistently higher and significant against JCI in the overall period. This outcome supports the hypothesis that SRI Kehati is riskier than JCI. The findings that exhibit a slightly lower mean return of Sri Kehati Index in the overall period could be related to the screening investment method that limits portfolio diversification. The same argument is also associated with the outcome that SRI Kehati is riskier than JCI. Even though the performance of Sri Kehati in this study is slightly lower in the overall period, it is still able to generate competitive returns especially from 2011 to 2014. This indicates that the return of Sri Kehati to certain extent outperforms the conventional index.

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1. Introduction

The Socially Responsible Investment (SRI) which concerns on ethical investing decision has grown significantly in the last four decades. Socially responsible investors focus on their investment decisions to a combination of financial and social criteria to make sure that the investments they select are consistent with their personal value system and beliefs (Das & Rao, 2013; Hamilton et al., 1993; Sauer, 1997). SRI provides a description of an investment process by adopting issues on environmental, social, governance (ESG) considerations. This process is integrated into the investment selection involving the inclusion of one or more of the ESG practices in the analysis and monitoring of an investment (The Forum for Sustainable and Responsible Investment, 2012).

The growth of ethical investment practices over the last two decades has seen the creation of new stock indices. The first sustainability index in the world was created on May 1, 1990 by the social investment research firm Kinder, Lyndenberg, Domini & Co (KLD) namely Domini 400 Social Index (DSI). It was launched in 1990 and is currently known as the MSCI KLD 400 Social Index. As a sustainability index, MSCI KLD 400 Social Index (KLD) is designed to measure the return of a portfolio of companies pursuing a strategy of corporate sustainability and social responsibility (Arias et al., 2013; Bianchi & drew, 2012; Luck & Pilotte, 1993). The socially responsible index excludes all companies in the "sin industries" such as tobacco, gambling, alcohol, and similar industries (Statman, 2006). This index takes into consideration, negative social screening and best in class practices.

The awareness of Socially Responsible Investment (SRI) also exists in Indonesia. This is manifested in the creation of an index called SRI Kehati Index. This index was developed by the KEHATI Foundation, in collaboration with Indonesian Stock Exchange (IDX) in 2009. Following the standard and regulation of Sustainable and Responsible Investment (SRI), SRI Kehati Index can be regarded as a type of green investment. By launching SRI Kehati Index, it was expected that the public would be made aware of the existence of an index showing which companies were regarded as beneficial and constantly managing sustainable development.

The knowledge of Socially Responsible Investment or ethical stock index may offer new concepts on the influence of social responsible standards on the performance of corporate stocks (Consolandi et al., 2009). However, in Indonesia, there are very limited empirical

studies that have been done to investigate SRI Performance. The comparative studies between SRI and the conventional fund in Indonesia still have not proved to achieve conclusive results, especially in the performance index. With such limited findings resulted from lack of study on the socially responsible investment in Indonesia, this study provides further evidence in the aspect of SRI index performance.

2. Literature Review and Hypothesis Development

2.1 Theoretical Perspective of Socially Responsible Investment

Neo classical economics assumes that investors care about two characteristics of their investment decisions i.e. investment's expected risk and the expected return (Hickman et al., 1999) . From the perspective of responsible investment, SRI not only focuses on the risk-return relationship of an investment, but also on the impact of the investment on ESG. According to (Plantinga & Scholtens, 2001), the financial objective of SRI investors can be observed on the impact of the investments on society. SRI investor's behavior avoids companies that produce goods related to the negative screening. They select companies who applied a positive record with good social, environmental and governance (Renneboog et al., 2008) . This is consistent with the triple bottom line theory stating that the *planet for environment, people for social and profit for good governance*. The investors have a reason that they are not only considering about return on financial investment but also care about the importance of social value, business place, characteristics of the company's goods or services, and the way a business is run. Consequently, the corporation should take a part in the long-term impact of the investment on the environment and society (Sparkes, 2002; Vives & Wadhwa, 2012). This is a reason why the focus on the motivation of SRI investor requires changes on their mindset and personal belief to a better environment, social and governance without forgetting the risk and return of the investment.

The portfolio theory showed that a restriction on financial investment will generate a poorer return (Jansson et al., 2011; Schröder, 2004). Based on that, selecting a portfolio related to ethical screening can be identified as a high value practice that may last with negative impact on the investment return (Bauer et al., 2006) . Therefore, investors are willing to receive lesser returns as good implication for a better sustainability in the world (Hamilton, et al., 1993). As mentioned earlier, SRI offers an investment that is based on ESG screening. However, social screens could constrain a portfolio improvement (Bollen, 2007). According

to the portfolio theory, diversification is an important element in SRI portfolio selection. Undoubtedly, prior studies demonstrate that a significant number of investors want a portfolio that are consistent with their personal beliefs which therefore limits diversification. In other words, they refused to invest in sin stock portfolio and conversely the SRI provides priority to invest in firms that support ESG (Kinder, 2005).

2.2 Empirical Evidence and Hypothesis Development

2.2.1 Mean Return of SRI

Most socially responsible investors insist on focusing the investment performance by comparing the mean return of SRI funds and non-SRI funds. Then, they can match the performance of conventional funds as their wishes (Statman, 2000). Empirical evidence on comparison between the mean return of SRI indices and conventional benchmarks indices was analyzed by (Sauer, 1997). Using average monthly return, SRI Index (Domini 400 Social Index) and conventional index (S&P 500 and CRSP Value Weighted Market index) were analyzed in three sub periods from 1st January 1986 to 31st December 1994. The findings shows the DSI 400 index monthly mean return was higher than the two conventional benchmarks at 0.0116%, 0.0130% and 0.0104% in those respective sub periods. Therefore, it can be safely concluded that the socially responsible index (DSI 400) outperformed the conventional index (S&P 500 and CRSP VW Market).

A study was conducted by (Schröder, 2004) using the mean return of United States, Germany and Swiss SRI indices and SRI mutual funds. It was concluded that the majority of SRI mutual funds and SRI indices in the US, Germany and Swiss outperform the mean return performance of the market. The performance of the mean monthly return was also examined by (Schröder, 2007) using the data from an international SRI index covering the areas of Europe, Australia, Canada and the United States. The results confirmed that 17 out of 29 SRI indices' funds posted higher performance or outperformed the mean monthly return of conventional index. It can be seen from this study that the majority of the SRI indices represented a better opportunity (outperform) from the conventional index benchmark performance.

Kreander et al. (2005) conducted a study in one of the category of SRI which is ethical funds. It was revealed that a review on the mean weekly returns of 30 ethical funds identified

15 ethical funds that outperformed the non ethical benchmark funds. The other study of sustainability index performance was carried out on the SRI in Brazil as the emerging market country. By calculating the mean daily return index, Ortas et al. (2012) analyzed the performance of the Brazilian Corporate Sustainability Index (BSCI). The analysis concluded that the mean daily return of Brazilian Corporate Sustainability Index (BSCI) was generally lower in performance (underperform) as compared to the other four of conventional benchmark indices (BoVespa, Brazil, Brazil 50, BMLC, and BSC). The BSCI only obtained 0.0614% mean daily excess return while the other conventional benchmark indices recorded higher values of mean returns (BoVespa; 0.0710%, Brazil index; 0.0692%, Brazil 50; 0.0675%, BMLC; 0.0690%, and BSC; 0.0641%). From these results, then it can be concluded that BSCI underperformed the conventional benchmark indices.

The above review clearly shows that the majority of studies in this area document the superior performance of SRI over the market. The investors should not hesitate to direct their funds in socially responsible investment. The compositions of SRI screening criteria will not destroy the mean return performance of the investment. Those even certainly support the environment, social and governance in sustainable practices. Relating to the SRI in Indonesia, this study hypothesized that:

H1: The SRI Kehati index presents significantly higher returns than Jakarta Composite index (JCI).

2.2.2 Risk (Standard Deviation) of SRI

Another important aspect of investment performance is investment risk. In this case, most of the previous studies such as Edwards & Samant (2003) used standard deviation to measure risk. Edwards & Samant (2003) evaluated risk profile of socially responsible funds in two periods. The first period is the five year performance of S&P 500 index compared to 23 social funds on quarterly basis (1996-2000). From the 23 socially responsible funds, 16 funds were having higher risk values when compared to the S&P 500 index in overall periods. The second period is based on a quarterly basis on the 10 year performance (1991-2000) of socially responsible funds. It was found that 5 of the funds recorded higher risk values compared to the S&P 500 index in this period.

Le Maux & Le Saout (2004) also analyzed the standard deviations of sustainability indices and the conventional indices' benchmarks. The data consist of five sustainability indices; The DJSI World, Ftse4good global 100, Ftse4good UK50, Ftse4good US100 and Ftse4good Europe 50. This study was separated into two sub periods of study. The first sub period is from 1 January 1997 to 27 March 2000, and the second sub period is from 27 March 2000 to 1 December 2002. The results in the first sub period showed that the standard deviation for DJSI World was greater at 0.085% than MSCI as the conventional benchmark. On the other hand, the Ftse4good global 100 showed higher standard deviation value of 0.113% than MSCI, Ftse4good UK50 was 0.072% riskier than FTSE 100, Ftse4good US100 showed higher standard deviation value of 0.124% than S&P 500, and Ftse4good Europe 50 was at higher risk at 0.253% than DJ Euro Stoxx 50 as the conventional index benchmark. Meanwhile, for the second sub period, standard deviation for the DJSI World was volatile with the percentage of 0.074 % than MSCI as the conventional benchmark index. The Ftse4good global 100 showed a higher percentage of 0.161 % than MSCI, Ftse4good UK50 showed a higher risk percentage of 0.017% than FTSE 100, and Ftse4good Europe 50 was indicating a 0.316 % points higher than DJ Euro Stoxx 50. Therefore, from this two sub periods of data, it can be observed that majority the sustainability indices posted a higher risk profiles than conventional benchmarks.

(Statman, 2006) compared the risk profile of SRI and market indices by using standard deviation and classified the analysis into four different periods. During the first period of May 1990 to April 2004, (Statman, 2006) highlighted that the standard deviation of DSI400 index of 4.58 was higher than S&P500. Another period of the risk profile was initiated from January 1995 to April 2004 that showed the standard deviation of DSI 400 index was having higher volatility of 0.25 points than S&P 500. Compared with other sustainability index, the DSI 400 was having lower risks than the Dow Jones Sustainability Index and Citizens Index during the period from September 1999 to April 2004. On the other hand, the DSI 400 again recorded a high risk profile with a higher standard deviation of 0.17 points compared to S&P 500 in this period. Similar with the DSI 400, the Dow Jones sustainability index (DJSI) standard deviation was higher at 0.67 point and Citizen Index also showed a higher risk of 1.32 points when compared to S&P as the conventional benchmark. Then, the last periods were from May 2000 to April 2004 where the DSI 400 standard deviation was compared with S&P 500 and was found that it was riskier at 0.12 points. The other sustainability indices, namely Citizen Index recorded 1.37 points indicating a high risk level than S&P 500 while

Dow Jones Sustainability index was 0.76 points which was riskier than S&P 500. From these findings, the comparison between sustainability index and conventional benchmark demonstrated that the standard deviation of socially responsible index generally exceeded the risk profile of the S&P 500 index during both sub-periods and overall period.

(Schröder, 2007) conducted a more comprehensive study by compiling SRI indices around the world including Australia, Canada, Sweden, the United Kingdom, United States and few other European countries. With regard to risk (standard deviation) measurement, from a total of 29 SRI indices, 27 are more volatile when compared to their conventional benchmarks indices. These evidences showed that socially responsible investment indices are associated with higher risk.

However, a study in an emerging market of Brazil reveals a different result. (Ortas, et al., 2012) analyzed the evidence of standard deviation from Brazilian Corporate Sustainability Index (BSCI). Unlike the earlier findings, it is evidenced that the risk profile of the Brazilian Corporate Sustainability Index has a lower standard deviation than the other four conventional benchmarks (BoVespa, Brazil, Brazil 50, and BMLC). From these results, it can be concluded that the social index showed a lower level of standard deviation which means that BSCI is not riskier than conventional benchmark indices.

With those evidences, we can get a conclusion that almost all studies documented that SRI fund has higher risk as compared to conventional benchmarks. Therefore, this study develops the second hypothesis about the risk profile by focusing on comparative between SRI funds against benchmark fund as follows:

H2: The SRI Kehati index is significantly riskier than the Jakarta Composite Index (JCI).

3. Methodology

This comparative study analyzes return and risk of SRI Kehati index and Jakarta Composite Index (JCI) as the conventional benchmark. It is specified to measure the performance of socially screened portfolio (i.e., SRI Kehati index) with the unrestricted benchmark portfolios (i.e., JCI for conventional index). This study refers to Cahyaningsih et al. (2009) using backtracking period to calculate daily returns and grouping them into monthly returns. (Consolandi, et al., 2009) argued that from annually backtracking period, their study were

expected to avoid performance from bias issues and contributed to index performance study. This study employed data on daily closing prices index. The data were collected from the IDX Statistics Report from January 2009 to January 2014.

3.1 Measurement of Mean Return

The first step to measure return is by calculating the average daily raw returns of both SRI Kehati Index and the Jakarta Composite Index. Following Cahyaningsih et al. (2009), the daily mean return will be firstly calculated and then presented on monthly basis. Actual daily return (R_t) for both indices are formulated as in the equation 1, and then averaged over the period by dividing them with the number of days (N), as in equation 2

$$R_t = \frac{(P_t - P_{t-1})}{P_{t-1}} \qquad [1]$$

Where:

P_t = index level at time t

P_{t-1} = index level at time *t*-1

$$\text{Average } R_i = \frac{1}{N}\sum_{t=1}^{t} \frac{(P_t - P_{t-1})}{P_{t-1}} \qquad [2]$$

Where:

P_t = index level at time t

P_{t-1} = index level at time t-1

N = number of days

3.2 Measurement of Standard Deviation

For the risk profile of the indices, the standard deviation is used. This is supported by Ortas et al. (2012) who claim that standard deviation measures the risk level of an investment. It is also in accordance with (Ferruz, Gómez-Bezares, & Vargas, 2010) who defined that the variability of unsystematic risk can be measured by a standard deviation. This standard deviation is a statistical tool measurement obtained from the historical variation of daily returns (Jones et al., 2008) . The calculation of the standard deviation for both indices (σ_i) is computed by using equation [3] below.

$$\sigma_i = \sqrt{\sum \frac{[(R_{i,t} - E(R_{i-t})]^2}{N}} \qquad [3]$$

where E ($R_{i,t}$) is the expected return of the index.

3.3 T-test for Performance Difference

This study compares the risk-return profile of the SRI Kehati Index and the JCI index using independent sample t-test. This is done by comparing the mean return and standard deviation of both indices. The independent t-test examine whether the mean of returns and standard deviation of the two samples are different or not. In this study, IBM SPSS version 20 software is used to conduct the independent t-test.

4. Findings

4.1 Descriptive Statistic

This section discusses the descriptive statistics of both SRI Kehati and JCI daily index price from January 2009 until December 2014. In total, this study collected 1464 daily index data in the overall period. The descriptive statistics of the daily SRI Kehati Index and Jakarta Composite Index are tabulated in Table 1 below. The SRI Kehati index experienced its minimum at 72.246 points on 2nd March 2009 and reached the maximum points at 299.564 in December 2014. Meanwhile, its mean value was recorded at 203.89 points.

Table 1
Descriptive Statistics of Daily Index Price of SRI Kehati Index and Jakarta Composite Index from January 2009 to December 2014

Descriptive Statistics	SRI Kehati	JCI
Minimum	72.246	1256.109
Maximum	299.564	5246.483
Mean	203.894	3728.981
Standard Deviation	55.332	1024.807
Skewness	-0.402	-0.649
Kurtosis	4.364	3.995
Observations	1464	

On the other hand, the Jakarta Composite index recorded 1256.109 points as its minimum on 2nd March 2009 and 5246.483 points as its maximum posted on 8th September 2014. The mean value of the Jakarta Composite index price was recorded at 3728.98 points.

4.2 Mean Returns of SRI Kehati Index and JCI

The study analyzes the daily mean return of both SRI Kehati and JCI which is then constructed to monthly and annual calculation for a period from January 2009 to December 2014. In 2009, the SRI Kehati index slightly underperformed JCI in the beginning of the year while outperformed from June 2009 to November 2009. The SRI Kehati Index was also observed to generally underperform the conventional index in 2010. These outcomes could be attributable to the global financial crisis during 2008 that impacted Indonesian capital market. In addition, uncertainty also existed due to the political situation. The president election caused the investors to temporarily witheld their investment until early 2010. Other explanation could be related to the commodity price movements and the exchange rate that affected the stock market indices in Indonesia during 2009 to 2010 (Tambunan, T. T. 2010).

On the other hand, in 2011, it is shown that there were only three months (January, May and June) that the JCI outperforms the SRI Kehati index while for the other nine months the daily mean return of SRI Kehati outperformed JCI conventional benchmark. In the first half of 2012, SRI Kehati proved that daily mean return underperformed JCI, then generated an opposite results in the next half year where SRI Kehati outperformed JCI. Then, in 2013 the SRI Kehati Index generally underperformed against JCI as the conventional index. And also in 2014, only February and August that shows SRI Kehati underperformed the JCI. Hence, in 2014, generally the SRI Kehati index demonstrates that its daily mean return outperformed JCI as conventional benchmark. To summarize the results of mean return performance by monthly calculation period, the following table compares the monthly returns of both SRI Kehati index and JCI from January 2009 to December 2014.

Table 1
Mean Returns of the SRI Kehati Index and the Jakarta Composite Index

Period	Daily Mean Return SRI 2009	Daily Mean Return JCI 2009	Daily Mean Return SRI 2010	Daily Mean Return JCI 2010	Daily Mean Return SRI 2011	Daily Mean Return JCI 2011	Daily Mean Return SRI 2012	Daily Mean Return JCI 2012	Daily Mean Return SRI 2013	Daily Mean Return JCI 2013	Daily Mean Return SRI 2014	Daily Mean Return JCI 2014
Jan	-0.00494	-0.0041	-8.3E-05	0.00076	-0.0047	-0.0043	0.00158	0.00234	0.00175	0.00124	0.00167	0.00118
Feb	-0.00301	-0.0017	-0.00148	-0.0012	0.00157	0.00103	-0.0003	7.01E-05	0.00433	0.00372	0.00225	0.00226
Mar	0.0075	0.00561	0.00446	0.00396	0.00313	0.00257	0.00186	0.00162	0.001	0.00161	0.00184	0.00164
Apr	0.00808	0.00941	0.00288	0.00327	0.00211	0.0019	0.00021	0.00074	0.00129	0.00087	0.00099	0.0008
May	0.00344	0.00553	-0.00214	-0.0028	-0.0003	0.00025	-0.0042	-0.0041	-0.0015	0.00037	0.00068	0.00065
Jun	0.00279	0.00273	0.00232	0.00194	0.00094	0.0007	0.00222	0.00161	-0.0011	-0.0024	0.00016	-0.0001
Jul	0.00772	0.00663	0.00223	0.00239	0.00231	0.00291	0.00361	0.00214	-0.0005	-0.0018	0.00315	0.00238
Aug	-9.2E-05	0.0005	-0.00071	0.00024	-0.0032	-0.0036	-0.0007	-0.001	-0.0056	-0.0053	-0.0003	0.00048
Sep	0.00371	0.00298	0.00619	0.0076	-0.0026	-0.0036	0.00261	0.00247	0.00179	0.00156	0.00055	2.44E-05
Oct	-0.00123	-0.0018	0.00184	0.00182	0.0036	0.00339	0.00135	0.00094	0.0025	0.00213	-0.0002	-0.0004
Nov	0.00123	0.00106	-0.00335	-0.0013	-0.0007	-0.0008	-0.0017	-0.0008	-0.0036	-0.0028	0.00108	0.0006
Dec	0.00238	0.00258	0.00146	0.00245	0.00166	0.00139	0.00016	0.00053	0.00035	0.00027	0.0009	0.00077

Following Consolandi et al., (2009), to ensure for the consistency of the mean return's calculation, the average daily index return performance of SRI Kehati and Jakarta Composite Index is analyzed by using the annual return period from 2009 to 2014. The composition of each year performance is demonstrated in Table 2. During the period of 2009 and 2010, the mean return of SRI Kehati underperformed the JCI. The results are different starting from the period 2011 to 2014, which shows that SRI Kehati outperformed the Jakarta Composite Index. Therefore, during the overall period in the interval (2009 to 2014), it is observed that the performance of SRI Kehati index slightly lower (underperform) against the Jakarta Composite Index. However, it was only in 2010 and 2014 where its underperformance was significant at 10 percent level. This result rejects the hypothesis that states the SRI Kehati index presents higher daily returns compared to the Jakarta Composite index (JCI).

Table 2
Daily Mean Return of the SRI Kehati Index and Jakarta Composite Index in Annual Period

Year	Mean return of SRI Kehati Index	Mean return of JCI	Sig. (2-tailed)
2009	0.00230	0.00244	0.66823
2010	0.00113	0.00159	0.079*
2011	0.00032	0.00015	0.23459
2012	0.00055	0.00054	0.95664
2013	0.00007	-0.00005	0.64976
2014	0.00106	0.00085	0.095*
2009 - 2014	0.00090	0.00092	0.86603

** Significant at 10%*

4.3 Risk (Standard Deviation) of SRI Kehati Index and JCI

To answer the second hypothesis, this study analyzes the standard deviation as risk profile of SRI Kehati index and Jakarta Composite Index. Similar to mean return, this study constructs the risk calculation on monthly and annual periods from January 2009 to December 2014. The standard deviation of Sri Kehati and JCI can be observed from Table 3. In the monthly period from 2009 to 2014, the overall standard deviation values of SRI Kehati index was higher than the value of the Jakarta composite index.

Table 3
Standard Deviations of SRI Kehati Index and the Jakarta Composite index

Period	Std Dev SRI 2009	Std Dev JCI 2009	Std Dev SRI 2010	Std Dev JCI 2010	Std Dev SRI 2011	Std Dev JCI 2011	Std Dev SRI 2012	Std Dev JCI 2012	Std Dev SRI 2013	Std Dev JCI 2013	Std Dev SRI 2014	Std Dev JCI 2014
Jan	0.0136	0.01178	0.00997	0.00896	0.02042	0.01807	0.01008	0.01445	0.01031	0.00738	0.01677	0.01309
Feb	0.0132	0.01068	0.01269	0.01106	0.0108	0.00934	0.01259	0.01014	0.0077	0.0056	0.00931	0.00731
Mar	0.0193	0.01607	0.01386	0.01038	0.01134	0.00863	0.00708	0.00562	0.01109	0.0092	0.0166	0.01127
Apr	0.0234	0.02047	0.01305	0.01045	0.00788	0.00599	0.00883	0.00681	0.00913	0.00613	0.01372	0.01085
May	0.0206	0.01954	0.02842	0.02805	0.00958	0.00816	0.01191	0.01029	0.01469	0.01086	0.01317	0.00926
Jun	0.0202	0.02016	0.01477	0.01296	0.0083	0.00801	0.01603	0.0153	0.0288	0.0234	0.00774	0.00602
Jul	0.0156	0.01516	0.01304	0.00682	0.01046	0.00783	0.01198	0.00876	0.01881	0.01473	0.01036	0.00792
Aug	0.0144	0.01517	0.01221	0.00996	0.02154	0.02066	0.00814	0.00694	0.02359	0.02162	0.00799	0.00546
Sep	0.0137	0.01174	0.01568	0.01224	0.03133	0.02746	0.00945	0.00851	0.0267	0.0209	0.00813	0.0061
Oct	0.0124	0.0115	0.00882	0.00745	0.02353	0.0225	0.00624	0.00468	0.01047	0.00787	0.01259	0.01012
Nov	0.0109	0.01076	0.01263	0.01127	0.01565	0.01396	0.0082	0.00518	0.01444	0.01037	0.00783	0.00555
Dec	0.0127	0.01122	0.01389	0.01205	0.0097	0.00848	0.00667	0.00454	0.01303	0.00996	0.0009	0.00713

On the other hand, the annual risk level of SRI Kehati and Jakarta Composite Index is analyzed by using the annual period from 2009 to 2014 as depicted in Table 4. Similar with the monthly calculation, Table 4 details the evidence of annual standard deviation value of the SRI Kehati index which experiences higher value (riskier) and significant at one and five percent level against the Jakarta Composite Index. Therefore, it can be observed from the overall period of standard deviation calculation from 2009 to 2014 that the SRI Kehati index is riskier than JCI conventional index. This result supports the second hypothesis that stated the daily return of SRI Kehati index is riskier than the daily returns of the Jakarta Composite index (JCI).

Table 4
Standard Deviations of the SRI Kehati Index and the Jakarta Composite Index in Annual Period

Year	Standard Deviation (Risk) of SRI Kehati	Standard Deviation (Risk) of SRI Kehati JCI	Sig. (2-tailed)
2009	0.01588	0.01452	0.00266**
2010	0.01408	0.01180	0.00033**
2011	0.01504	0.01325	5.43E-05***
2012	0.00976	0.00843	0.03762**
2013	0.01573	0.01233	1.71E-06***
2014	0.01042	0.00833	0.02588**
2009 – 2014	0.01359	0.01144	1.75E-18***

**** Significant at 1% level; ** Significant at 5% level*

5. Discussion and Conclusion

The mean return of SRI Kehati index reveals various kinds of results in the monthly and annual periods. Although the periods from 2011 to 2014 shows outperform results, the findings indicate that the mean return of SRI Kehati index has not performed better than the Jakarta composite index in the overall period. Despite the majority of literature concludes that SRI index outperforms the conventional benchmark, the SRI Kehati index in this study has performed poorly in the overall period. The outcome of this study is similar with an earlier study on emerging market which was conducted by (Ortas, et al., 2012). It is also consistent with a study by (Mueller, 1991), that indicated eight out of ten ethical funds were underperformed using an annualized return compared to corresponding conventional index. Furthermore, the outcome of this study also follows the outcome of (Bauer, et al., 2006; Tippet, 2001), (Cummings, 2000),(Chang & Witte, 2010) and (Schröder, 2004) who documented a lower return on SRI fund. Based on empirical underperformance evidence,

(Ortas, et al., 2012) argued that because the idea of ESG screening restricted the possible diversification of portfolio return, the SRI index experienced low performance than the market benchmark. Furthermore, (Jones, et al., 2008) and (Tippet, 2001) argued that an underperformance result of SRI fund is associated with the additional transaction cost of using screening method. This argument is also supported by Mueller (1991) who argue that returns are sacrificed because social and environment criteria screening may incur additional costs. From those previous authors, therefore it is agreed that SRI underperform the market because SRI has a restriction in screening criteria which conventional investment has not. This study demonstrates that the performance of annual mean return of this study is interpreted as does not underperform in overall period from 2011 until 2014. However, it rejects the hypothesis that SRI Kehati index presents higher daily return from Jakarta Composite index when the overall period of 2009-2014 is considered.

As presented in the earlier section, the monthly period and overall period of standard deviation of SRI Kehati index showed higher volatility compared to the JCI as a conventional benchmark index. Answering the hypothesis testing, therefore it is accepted that standard deviation in overall period is higher for SRI Kehati index than JCI as the conventional benchmark index. This is supported by the empirical evidences as documented by (Bello, 2005) that SRI portfolio consistently experienced higher risk from the conventional portfolio profile. (Chang & Witte, 2010) explained that SRI fund demonstrated a higher standard deviation because the big range of performance implied higher volatility. Edward et al. (2003) argue that the investors selected SRI index as supporting modern portfolio theory which explain the trade-off between risk and return. Although there is restriction, Le Maux and Le Saout (2004) argued that SRI investors still accept higher level of risk and return of SRI index since their investment objectives are met.

The study has shown interesting results with the observing performance of the SRI Kehati index against the JCI as the Indonesian market index. The results provide evidence on the achievements of social investments in Indonesia. Even though the performance of SRI in this study is slightly lower, but it is still generating competitive results in certain years. Annual results of mean return from 2011 to 2014 give evidence that the return of Sri Kehati outperforms the conventional market. It should be highlighted that Socially Responsible Investment as known as ethical investment in Indonesia is still at the infancy stage. To

capture for the real impact of SRI performance, future study on this setting should be conducted in an expanded time frame.

6. References

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